

NBC

Dialogue of Radio Interview - May 25, 1934

by

Margaret Santry

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Miss Santry -- I'll confess, Mrs. Friedman, I was thunderstruck the other day when I met you for the first time. I simply wasn't prepared to find a petite, vivacious young matron bearing the formidable title of Cryptanalyst for the United States Coast Guard. How did you ever get interested in the highly technical science of deciphering codes and crypts?

Mrs. Friedman -- I never thought of my job as terribly unusual until the newspapers stumbled upon what I do for the Government, Miss Santry. But I first got interested in codes and ciphers when I was a student at Wooster College, Ohio, majoring in English Literature. You see, I became intrigued with that controversy over whether or not Sir Francis Bacon wrote Shakespeare's plays and whether he concealed his authorship in cipher, and decided I'd try my luck at the mystery. So I began the study of cipher analysis.

Miss Santry -- I see. Just what has led all these Baconians to believe that Sir Francis Bacon was really Shakespeare's ghost writer?

Mrs. Friedman -- Sir Francis Bacon, a very high-born nobleman in Queen Elizabeth's court who served as Secretary

to the Ambassador to France, invented a cipher in which he used two forms of letters--plain and fancy. Because the theater was in such low repute in those days, those who believe in the Bacon theory contend that to conceal his interest in the theater and playwriting, Sir Francis Bacon used Shakespeare's name on his plays. They base their contention on the use of that plain and fancy lettering which they claim contains the cipher that reveals Sir Francis' real message as author.

Miss Santry -- As a matter of fact, I understood all manuscripts were printed in that same kind of plain and fancy mixed lettering during Elizabeth's time--just for decorative purposes.

Mrs. Friedman-- That's true, and none of the ciphers which have been claimed to prove Bacon's authorship of the Shakespearean plays, in my opinion, have stood up under real scientific analysis.

Miss Santry -- It's a far cry from Shakespearean plays to running, Mrs. Friedman. How did you ever come to apply your knowledge of decoding and deciphering in combatting smuggling for the United States Coast Guard?

Mrs. Friedman-- When the war came on, there was an immediate emergency for an Intelligence Bureau for Military codes. Curiously enough, Uncle Sam didn't have one.

I was pressed into service, as was my husband. It was a simple step from literary to military ciphers, so my husband and I, with one assistant, served the Government with what we'd learned about ciphers and codes.

Miss Santry -- Do I understand that General Pershing requested your services in France?

Mrs. Friedman-- Yes, there was a letter requesting my services at General Headquarters in the A.E.F.--but there was a ruling about women serving near the front, so my husband served on the other side while I remained here. After the war, I was importuned from time to time to serve in various Government departments until I came to the Coast Guard several years ago.

Miss Santry -- Are many criminals brought to task through the Government's intercepting and decoding secret messages?

Mrs. Friedman-- Oh, yes--that's a most important part of law enforcement. Of course, the Prohibition era developed the business of secret communication to a fine art; with the millions of dollars to be made in rum smuggling, the cunning and ingenuity of the smugglers was applied to the utmost. It was our job to match our wits with theirs.

Miss Santry -- It's apparent you were a worthy combatant, from the number of plots you've outwitted. And how are all these smuggling talents of the run-runners being used now that Prohibition is over, Mrs. Friedman? Repeal didn't end the major part of your work for the Coast Guard, did it?

Mrs. Friedman -- No, Miss Santry, I'm afraid smuggling is here to stay. Prohibition taught the smugglers high-powered methods of organization. They are now turning what they learned in smuggling liquor also to account for other means of livelihood.

Miss Santry -- And what are they smuggling now besides liquor?

Mrs. Friedman -- There is still much liquor smuggling going on for those who would evade the Government tariffs. But the ingenuity of the smuggler has also now been turned to narcotics, perfumes, jewelry, and even Pinto beans on the Texas border.

Miss Santry -- I understand one of your biggest jobs was turning up the ship, the HOLMWOOD, Mrs. Friedman. How did that run-running ship get through the port of entry and half way up the Hudson River with 20,000 cases of liquor aboard without anybody discovering it until their secret messages were intercepted?

Mrs. Friedman -- That smuggling plot was a cleverly devised piece of timing, Miss Santry. The HOLMWOOD, you see,

was masked as the TEXAS RANGER, the name of a legitimate ship due into the harbor, which was known, expected, and had full credentials for entry. The Port authorities let it through as a shipment of oil. What happened is that the HOLLYWOOD, disguised as the TEXAS RANGER, beat the real TEXAS RANGER into port and was half way up to Albany, the destination of the cargo of liquor, when the secret messages were deciphered,

by the combined efforts of the Customs and the Coast Guard and the ship and crew seized. Those

20,000 cases of liquor never got to Albany.

Miss Sentry -- Think of all the hangovers the citizens of Albany didn't have--thanks to your code deciphering, Mrs. Friedman! But now about the art of deciphering--do you have a set mathematical formula which you apply to these secret messages as they come in? Incidentally, what form are they in--numbers or letters?

Mrs. Friedman-- They are usually in blocks of jumbled-up letters. The whole deciphering science is based on what we call the mechanics of language. There are certain fixed ways in which language operates, so to speak; and, by studying the known elements and making certain assumptions, one can arrive at a result that usually does the trick.

For instance, it's an established fact that the most used letter in the English language is the letter E. The second most used letter is T.

Next in line come O, A, N, I, R, H, and so on.

The most used combination of letters is TH, and the commonest word in the English language is THE.

Miss Santry -- I see. And how do you apply that theory to a jumbled mass of letters or words that arrives on your desk to be decoded?

Mrs. Friedman-- Well, I look carefully through that jumbled mass of letters to find two letters that are used together most. Suppose they are RC. That pretty easily establishes for me that in this particular secret cipher the letters RC are really TH. Then I look for the letter used after the letters RC most. Perhaps that gives me a combination of RCX, which tells me that RC and X in this code represent the letters THE. With that established, I go through the rest of the jumble of letters, applying the same principle, and that's how the secret message is deciphered.

Miss Santry -- Are you baffled often by any of the codes or ciphers?

Mrs. Friedman-- Occasionally. It is sometimes necessary to have, instead of a single message, a series of messages to enable me to solve the system.

Miss Santry -- Of all the secret codes and messages flashed over the wires, how do you detect the criminal or illegitimate ones, Mrs. Friedman?

Mrs. Friedman-- Commercial codes and legitimate business codes usually have certain prescribed characteristics which reveal at a glance that they are legitimate.

Miss Santry -- Just how does your husband serve the Government with his expert knowledge of cryptanalysis, Mrs. Friedman?

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Miss Santry -- With your husband a code expert in the Signal Corps of the Army--and you a code expert in the Coast Guard--does the habit of thinking in code ever creep into your family life?

Mrs. Friedman-- I guess it's bound to--it's so much a part of our life.

Miss Santry -- And are your children experts in code, too?

Mrs. Friedman-- Our daughter Barbara, who is ten, is quite an expert for her age. When we were in Spain last year, she sent us messages in cipher all the time.

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Mrs. Friedman-- Oh, it solves itself rather nicely; especially when I have such a grand housekeeper to look after things as at present. I never really made any definite plans for a career, Miss Santry--it just happened. But you see, in spite of the large number of people trained to be code experts during the war, there have been too few people to supply all the Government's needs. At present the field is very limited because the number of people who are expert is very small. That is why I have been importuned from time to time by the Government to do some particular job.

Miss Santry -- Your job has been one of the most unique in Government service I understand, Mrs. Friedman. First working on military codes in the war-- then in full charge of secret communication in the war on rum-runners since Prohibition. I can see now why the Government has to press you into service continually. You are much to be congratulated on your contribution to your country.

Mrs. Friedman-- The only contribution I feel I have made of any real importance was to persuade my husband to leave his chosen field of genetics for the science of solving secret communications. He has a really amazing genius for codes and ciphers-- and no one in the field has been able to equal him.

Miss Santry -- And now, Mrs. Friedman, I wish to thank you for coming and giving this radio audience the pleasure of hearing this interview. I am sure they have enjoyed it--especially the young audience bursting with excitement in the control room.

Mrs. Friedman-- I have enjoyed coming, Miss Santry, and now I wish to thank you for inviting my children to come and both see and hear the broadcast from the control room.

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Mrs. Friedman -- Well, I look carefully through that jumbled mass of letters to find two letters that are used together most. Suppose they are BC. That pretty easily establishes for me that in this particular secret cipher the letters BC are really TH. Then I look for the letter used after the letters BC most. Perhaps that gives me a combination of BCX, which tells me that BC and X in this code represent the letters TH. With that established, I go through the rest of the jumble of letters, applying the same principle, and that's how the secret message is deciphered.

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